UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,921	06/28/2001	Udit Batra	20243CA	1812

210 7590 12/12/2002

MERCK AND CO INC
P O BOX 2000
RAHWAY, NJ 070650907

EXAMINER
SHARAREH, SHAHNAM J

ART UNIT	PAPER NUMBER
1617	

DATE MAILED: 12/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/894,921	Applicant(s) BATRA ET AL.	
	Examiner Shahnam Sharareh	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2001 and 30 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 24-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 24-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3,4,7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. Preliminary Amendment filed on June 29, 2001 has been entered. Accordingly, claims 17-23 are canceled. Claims 1-16, 24-41 are now pending. Applicant's election of species set forth in Paper No. 6 is acknowledged. Accordingly, the search is directed to the elected species.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(e).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-16, 24-41, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-16, 29-36 are rejected because their scope is not clear. Applicant is encouraged to use proper Markush language. Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. When materials recited in a claim are so related as to constitute a proper Markush group, they may be recited in the conventional manner, or alternatively. For example, if "wherein R is a material selected from the group consisting of A, B, C and

D" is a proper limitation, then "wherein R is A, B, C or D" shall also be considered proper. See MPEP 2173.

In the instant case, claim 1 recites various ingredients such as filler/disintegrant, superdisintegrant, etc.... Succeeding claims 1-7 describes each ingredient to comprise various compounds. However, claims 8-16 narrows each ingredient to a specific compound. Accordingly, the scope of the claims are confusing, because if each ingredient of claim 1 is to comprise various compounds, then itself can not solely be of one compound.

For example, if claim 1 contains filler/disintegrants which according to claim 2-3 comprise, lactose, calcium carbonate, calcium sulfate, etc..., then it can not only be limited to one ingredient as recited in claim 9. In brief, the limitations of the claims are incorrectly narrowed.

New Matter

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1-16, 21-41 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case, the recitation of "compressed tablets comprising efavirenz, ... wherein efavirenz is crystalline," is neither disclosed in the specification of the instant application nor in the

parent applications. In fact, the compressed tablets taught in the specification are directed to such formulations prepared by wet granulation where efavirenz was blended with other ingredients into a sluarry and then dried (see example 8, p.21 of the specification). Accordingly, the neither the parent application nor the instat application ot describe the subgenus of "compressed effavirenz tablets, wherein effavirenz is present in crystalline form."

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-16, 24-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 09/700946. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are substantially directed to similar effavirenz compressed tablets comprising efavirenz, filler/disintegrant, superdisintegrant, binder, surfactant, diluent/compression aid,

lubricant and solvent. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to practice one set of claims when in possession of the other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-10, 24-28, 29-31, 37-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Makooi-Moreheasd et al. US Patent 6,238,695 B1 ("Makooi").

Makooi discloses compressed effavirenz tablets comprising 300mg of efavirenz (50% by wt), sodium lauryl sulfate which is a surfactant, microcrystalline cellulose which is a filler, crosscarmelose sodium which is a superdisintegrant/disintegrant, lactose which is a filler/compression aid and magnesium stearate which is a lubricant (see abstract; col 5, lines 16; col 7, lines 15-67; claims 12-15). Makooi teaches higher concentrations of efavirenz of up to 800 mg per tablet (see col 5, lines 36-39; claim 14). Makooi employs a wet granulation process to prepare his formulations (see col 5, lines

59-col 6, line9; example 3). Makooi's methods employs the same steps as the instantly taught, therefore, the final product of Makooi inherently contains and meets all limitations of the instant tablets.

Further, with respect to claims 37-39 Examiner states that the instant claims appear to be drafted as "product by process" claims. Accordingly, products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (see MPEP 2113). "Even though product - by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product - by - process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Accordingly, Makooi's tablets meet the limitations of the instant tablets.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-16, 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makooi in view of Remington: the Science and Practice of Pharmacy 19th edition (pages 1616-1620) (IDS, filed June 28, 2001) and Christ et al US Patent 5,874,430.

Makooi's teachings are discussed above. Makooi fails to specifically employ the claimed amounts of ingredients set forth in claims 16, 25, 28, 32, 41 and use hydroxypropylcellulose as the specific binder.

Remington provides teachings for various types of pharmaceutically acceptable excipient that may be used to formulate compressed tablets (pages 1616-1620). For example, Remington on page 1618 sets forth binders such as various types of cellulose

derivatives including hydroxypropylcellulose, or other types of binders such as starch or PVP are recognized in the art as art equivalent.

Christ et al is used to show that formulating benzooxizinone antiviral compositions using various forms of excipients is well established in the art. For example, Christ discloses pharmaceutical compositions comprising an antiviral such as efavirenz in amounts equal to 0.5-95% of the total weigh of the composition (see col 249, lines 25-30), and pharmaceutically acceptable ingredients selected from a group consisting of filler/disintegrants such as lactose, binder such as starch, lubricant such as magnesium stearate, surfactant such as silicon dioxide (see col 249 col 35-46, col 250 lines 1-18, claims 6-10). (±) 6 Chloro-4-(cyclopropylethynyl)-4-(trifluoromethyl)-8-aza 1,4 -dihydro 2H 3,1-benzoxazin-2-one is the IUPAC name for Efavirenz (col 262, lines 45-50), therefore, Christ et al disclose compositions comprising Efavirenz. Christ specifically teaches crystallization of benzoxazineone derivatives and further indicates that their respective antiviral compositions can be used up to 1.5 g a day to provide therapeutic benefits (example 14, 16 and 22; col 251, lines 6-20). Christ finally teaches that various conventional methods may be employed to prepare the pharmaceutical compositions using any suitable excipient.

Although Makooi's teachings does not specifically teach the instant concentrations of excipients or the use of hydroxypropylcellulose as the binder of choice, it would have been obvious to one of ordinary skilled in the art of dosage formulation to optimize the individual ingredients of Makooi's dosage forms by routine

experimentation and further substitute any suitable art equivalent moiety known in the art such as hydroxypropylcellulose, as taught in Remington, for the binder of Makooi and improve the pharmacokinetic characteristics of Makooi's dosage formulation.

On of ordinary skill in the art would have been motivated to do such modifications because as suggested in Makooi, itself, Remington and Christ, he would have had a reasonable expectation of success in formulating more bioavailable oral dosage forms by optimizing the ingredients of Makooi's efavirenz tablets and further using suitable excipients, as such methodologies as described in Christ are conventional in the art.

Conclusion

8. No claims are allowed. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahnam Sharareh whose telephone number is 703-306-5400. The examiner can normally be reached on 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, PhD can be reached on 703-308-1877. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4556 for regular communications and 703-308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1123.

RUSSELL TRAVERS
PRIMARY EXAMINER
GROUP 1200